UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

March 8, 2007

Matthew DeBurle
Supervisor, Permitting Branch
Nevada Bureau of Air Pollution Control
901 S. Stewart St., Suite 4001
Carson City, Nevada 89701

Dear Mr. DeBurle:

Thank you for the opportunity to review the Bureau of Air Pollution Control's ("BAPC") proposed Operating Permit to Construct for the White Pine Energy Station, a 1590 MW coal-fired power plant to be located near McGill, NV.

Our detailed comments are enclosed. In general, we recommend that you provide an on-record justification for selecting dry scrubbing as Best Available Control Technology ("BACT") controls for SO_2 other than the use of a wet scrubber. We also believe BAPC should determine whether an additional Class II visibility impact analysis is needed to corroborate the CALPUFF modeling the applicant has provided and recommend documentation of the emission inventory the applicant used in its cumulative Class I increment analysis.

Your BACT analysis should more completely compare specific emission limits and control technologies selected as BACT in other Prevention of Significant Deterioration ("PSD") permits recently issued or proposed nationwide, together with a detailed rationale for eliminating the top ranked control on the basis of energy, environmental or economic considerations.

Please contact Roger Kohn at (415) 972-3973 or kohn.roger@epa.gov if you have any questions concerning our comments.

Sincerely,

Gerardo C. Rios
Chief, Permits Office
Air Division

Enclosure

cc: Eric Crawford, LS Power

EPA Region 9 Comments
BAPC Draft Operating Permit to Construct
White Pine Energy Station

1. The justification for BAPC's elimination of wet scrubbing from the top-down SO_2 BACT analysis is not adequately discussed in BAPC's technical support document. BAPC's Class I Application Review identifies wet scrubbing as the "top technology" in the top-down analysis for the PC boilers and cites "negative environmental impacts" for eliminating wet scrubbing. However the precise type of environmental impacts and specific basis for eliminating this option is not sufficiently described. See, for example, EPA's Environmental Appeals Board ("EAB") decision on General Motors, which states that "As we have recognized, it is appropriate to temper the stringency of the technology requirements whenever one or more of the specified collateral impacts – energy, environmental or economic – render use of the most effective technology inappropriate." The PSD permit application contains a relatively detailed list of energy, environmental and economic impacts associated with wet scrubbing. BAPC states in its Class I Application Review that it "concurs with WPEA's analysis." Yet neither the application nor BAPC's Class I Application Review provide the explanation of how these factors eliminate using the most stringent technology (wet scrubbing). The EAB has issued several decisions finding that a permitting authority should not merely recite other facilities' permit limits in establishing BACT. For example, the size of a proposed facility can have a very significant effect on considerations of cost-effectiveness and location specific factors must be considered in evaluating the other environmental effects of BACT. (See, for example, the EAB's Indeck-Elwood decision, which states that "The failure to provide an adequate justification may result in a remand to the permitting authority." See also the B-P Cherry Point decision.)

In providing an adequate justification for rejecting a control option as BACT, the permitting authority should distinguish the facility from others that have been recently permitted with the top control technology. We are listing some examples of other coal-fired power plants which have been permitted with wet scrubbing as BACT and believe these determinations should be considered in BAPC's BACT justification. The SO_2 BACT determination should include an on-record analysis showing why it is not feasible to use wet scrubbing as BACT for the proposed project.

Texas	LS Power, Sandy Creek Energy Associates City Public Service of San Antonio, Calaveras Lake Station
Utah	Intermountain Power Service Corp (New Unit 3)
Kentucky	Peabody Energy, Thoroughbred Generating LG&E, Trimble County Generating Station
Illinois	Peabody Energy, Prairie State Generating Station
Wisconsin	Wisconsin Energy, Elm Road Generating Station

Finally, we note that the proposed control rate of 95% for higher sulfur content coal results in an emission rate of 0.056 lb/MMBtu. This number could be rounded to 0.06, but not 0.065. If 95% control is determined to be part of the BACT limit, BAPC should impose the proper emission limit for that level of control.

2. EPA recommends that BAPC consider lowering the NO_x BACT emission limit (0.07 lb/MMBtu, 24-hour average) for the PC boilers. Even allowing for LS Power's stated desire in its application for the flexibility to blend in bituminous coals from Utah and Colorado, NO_x emissions prior to treatment in the selective catalytic reduction system should be less than the rate of 0.30 lb/MMBtu specified in the application. Also, the control efficiency of 77% cited in the application is somewhat conservative. After applying a control efficiency of only 80%, NO_x emissions should be reduced to less than 0.06 lb/MMBtu, which is the limit that EPA has proposed for the Desert Rock permit. BAPC's analysis does not contain any justification for the 0.07 lb/MMBtu limit, or a discussion of why LS Power could not comply with a 0.06 lb/MMBtu limit. EPA is aware of at least two other facilities, including one in Nevada, with proposed or final NO_x 24-hour average BACT limits with lower lb/MMBTU limits than what BAPC has proposed in the draft permit. The BAPC should evaluate whether LS Power could achieve the lower BACT emissions limits achieved by these example plants. To the extent that BAPC does not believe LS Power is able to meet these limits, BAPC should identify the differences between the LS Power project and the listed projects that support a higher limit.

Sithe Global Power, Desert Rock Energy Project (0.06 lb/MMBtu, 24-hour average)

Newmont Mining, TS Power Plant (0.067 lb/MMBtu, 24-hour average)

We recommend that BAPC also consider including provisions to allow for a shakedown period after the facility commences operation to determine whether a lower BACT limit is achievable.

3. EPA recommends that BAPC determine whether an assessment of near-field plume visibility impacts is needed to satisfy the requirements for an "additional impacts analysis under 40 CFR §52.21(o). This type of analysis may use the VISCREEN model based on the "Workbook for Plume Visual Impact Screening and Analysis" (EPA-454/R-93-023, October 1992), and which is primarily designed to be used for plume blight analyses in Class I areas. The requirement for an assessment of impairment to visibility, as part of an "additional impacts analysis" under 40 CFR §52.21(o), is distinct from the Class I area visibility assessment required under 40 CFR §52.21(p). The former typically includes a plume blight analysis which may use VISCREEN, while the latter is typically a regional haze analysis using CALPUFF, which may also involve a plume blight analysis. The application includes a regional haze analysis for two sensitive Class II areas using the CALPUFF model (Appendix 8, "Environmental Evaluation and Dispersion Modeling Files, Revised 12/14/2006", section 8.2.7.2, p.46 of PDF file). The VISCREEN plume blight analysis EPA could include those Class II areas as well as other

points within 50 km, as determined by BAPC. The additional analysis should corroborate the information provided by the CALPUFF model for the Class II areas.

4. The cumulative Class I increment assessment should include the emission inventory for this assessment and any assumptions that the applicant used to prepare it.

5. The Federal Land Managers may recommend some cumulative modeling assessment of Class I visibility, since the proposed facility's impact exceeds the 5% extinction change analysis level cited in "Federal Land Managers' Air Quality Related Values Workgroup (FLAG) Phase I Report" (December 2000), as well as the 10% extinction change level, at both the Jarbridge Wilderness Area and Zion National Park, according to tables 3-6, 3-7, 3-8 and 3-9 (pp. 3-20 ff, or pp. 39 ff of Appendix 8A PDF file) of the PSD application's Class I assessment attachment. Accordingly, it is BAPC's responsibility to work with the FLM to ensure that the proposed source's emissions will not have an adverse impact on this air quality related value.

The application attachment also raises the issue of natural obscuration of visibility (p. 3-29 ff), which does have the potential for reducing the relative impact of the source. However, it is not clear that precipitation at the Winnemucca meteorological station (# 24128) is directly relevant for visibility obscuration at Jarbridge, 200 - 240 km away; and similarly for the Cedar City station (# 93129), 22 - 64 km away from Zion. The presence of precipitation at some location for certain hours does not in itself prove that visibility was naturally impaired for viewers in the Class I area for the day

EPA notes these potential issues but will defer to the Federal Land Manager's evaluation of whether additional analysis for visibility is needed.

6. The lb/hr NO_x and CO BACT emission limits for the PC boilers have 24-hour averaging times instead of the typical BACT emission averaging period of one or three hours. The SO_2 BACT limit does not include any lb/hr limit. EPA recommends a tiered approach to the BACT limits for these pollutants, as we have proposed for Desert Rock, with both short term lb/hr (one or three hours) and long term lb/MMBtu (24-hr) averages. The short term lb/hr limits would make the necessary source tests more practical. Such limits would also reinforce the source's obligation to operate its control devices properly at all times. In addition, for CO and SO_2, a short term limit would assure compliance with the 3-hour (SO_2) and 1-hour and 8-hour (CO) National Ambient Air Quality Standards ("NAAQS"), as well as the 3-hour SO_2 increments. Without short term limits for CO and SO_2, it is possible that the source could be in compliance with its 24-hour limits, while a short term peak in CO or SO_2 emissions could cause an exceedance of the short term NAAQS.

7. Although BAPC's draft permit contains alternative BACT emissions limits for start-ups and shut-downs, the draft permit does not contain an enforceable definition of "startup" or "shutdown" and does not limit the duration of those events. The final permit should include enforceable definitions for those events to give meaning to the alternative BACT emissions limits. EPA recommends that BAPC define "startup" in the final

permit, and consider limiting the duration of each startup to 16 hours, which is the maximum time the applicant has stated could be necessary to complete a startup (see page 414 of the application). The applicant also used a16 hour duration in its modeling analysis. EPA notes that our proposed Desert Rock permit defines startup as "the period beginning with ignition and lasting until the equipment has reached a continuous operating level and operating permit limits." The permitting authority must ensure that the alternative BACT emissions limits meet all applicable PSD requirements, including compliance with NAAQS and increments. Also, BAPC should consider limiting the frequency of occurrence of the startup periods.

8. The Application Review does not address PM-2.5. To make the evaluation complete, EPA recommends that BAPC discuss PM-2.5 applicability, consistent with EPA's two policy memoranda related to the implementation of New Source Review for PM-2.5 ("Interim Implementation of New Source Review Requirements for PM-2.5," dated October 23, 1997, and "Implementation of New Source Review Requirements in PM-2.5 Nonattainment Areas," dated April 5, 2005). Together, both documents recommend that states regulate PM-10 as a surrogate for PM-2.5.

9. BAPC's Application Review states that LS Power will submit an acid rain permit application to EPA, which implies that EPA will issue the permit. BAPC has the authority to issue acid rain permits, and is required to issue the White Pine Energy acid rain permit. New acid rain sources are required to submit an application to EPA's Clean Market Division (and a copy to the permitting authority) at least 24 months prior to the date on which the boilers will commence operation. The application form will serve as the acid rain permit until BAPC issues a Title V permit with specific acid rain conditions.